



May 20, 2019

TO: Republican Members, Committee on Energy and Commerce

FROM: Committee Minority Staff

RE: Hearing entitled “Undermining Mercury Protections: EPA Endangers Human Health and the Environment.”

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The Subcommittee on Oversight and Investigations will hold a hearing on Tuesday, May 21, 2019, at 10:00 a.m. in 2322 Rayburn House Office Building entitled “Undermining Mercury Protections: EPA Endangers Human Health and the Environment.”

## **I. WITNESSES**

- Adam R.F. Gustafson, Partner, Boyden Gray & Associates PLLC;
- Philip J. Landrigan, M.D., M.Sc., Director, Global Health Program and Global Pollution Observatory, Schiller Institute for Integrated Science and Society, Boston College;
- Michael A. Livermore, Associate Professor of Law, University of Virginia;
- Janet McCabe, Former Acting Assistant Administrator, Office of Air and Radiation, U.S. Environmental Protection Agency;
- Noelle Eckley Selin, Ph.D., Associate Professor, Massachusetts Institute of Technology; Director, MIT Technology and Policy Program; and
- Heather McTeer Toney, National Field Director, Moms Clean Air Force.

## **II. BACKGROUND**

### **A. Mercury**

Mercury, a naturally occurring metal, is present in the earth’s crust and is naturally in coal and other fossil fuels.<sup>1</sup> Mercury is released into the environment through one of two ways. It can either enter the atmosphere naturally, such as through volcanic eruptions, forest fires, or the normal breakdown of minerals in rocks and soil, or it can be released by human activity such

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<sup>1</sup> EPA, *How People are Exposed to Mercury, Exposures to Methylmercury, How Does Mercury Get into Fish and Shellfish* (last visited May 15, 2019), available at <https://www.epa.gov/mercury/basic-information-about-mercury>.

as the burning of materials that contain mercury.<sup>2</sup> Mercury may descend to the ground relatively quickly, or, in the alternative, mercury may remain in the air for a prolonged period of time and may travel across continents; in such circumstances, it will be considered part of the “global cycle.”<sup>3</sup> Mercury levels in certain areas will depend on how much mercury is released not only locally, but also how much is released regionally, nationally, and internationally.<sup>4</sup>

Once released into the atmosphere, mercury will eventually deposit into bodies of water, including lakes and streams, or onto land—where it also will ultimately be transported into water. In the water, microorganisms can change the mercury into methylmercury, and the methylmercury will accumulate in fish and shellfish.<sup>5</sup> Not all fish, however, contain similar amounts of mercury; fish higher up the food chain tend to be more dense in mercury due to the fact they consume the smaller, mercury-containing fish.<sup>6</sup>

Exposure to methylmercury is common; most people demonstrate levels of mercury in their system.<sup>7</sup> Additionally, exposure to mercury takes several forms. A person may be exposed through the consumption of fish, breathing air vapors from spills, incinerators or the burning of mercury containing fossil fuels, the release of mercury from certain dental work and other medical treatments, as well as from practicing rituals that involve mercury.<sup>8</sup> Nearly all human exposure to methylmercury in the United States, however, occurs through fish and shellfish consumption.<sup>9</sup>

With respect to pregnant women, methylmercury absorbed by the mother will move through the placenta, into the bloodstream of the unborn infant, and then into the unborn infant’s tissue and brain.<sup>10</sup> Because unborn infants are the most vulnerable population with respect to the effects of methylmercury, such transfer of methylmercury from the mother to the unborn infant can have detrimental effects on the unborn infant’s health.<sup>11</sup> Furthermore, methylmercury may adversely impact an infant in several ways—the impacts may be subtle or extreme depending on

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<sup>2</sup> *Id.*; CDC, *Public Health Statement Mercury*, Agency for Toxic Substances and Disease Registry (1999), available at <https://www.atsdr.cdc.gov/ToxProfiles/tp46-c1-b.pdf>.

<sup>3</sup> EPA, *How People are Exposed to Mercury* (last visited May 15, 2019), available at <https://www.epa.gov/mercury/how-people-are-exposed-mercury>.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> United States Environmental Protection Agency, *Health Effects of Exposure to Mercury, Methylmercury Effects, Effects on People of All Ages*, (last visited May 15, 2019), available at <https://www.epa.gov/mercury/health-effects-exposures-mercury>.

<sup>8</sup> CDC, *Mercury-ToxFAQs*, Agency for Toxic Substances and Disease Registry (1999), available at <https://www.atsdr.cdc.gov/toxfaqs/tfacts46.pdf>.

<sup>9</sup> EPA, *How People are Exposed to Mercury, Exposures to Methylmercury, How Does Mercury Get into Fish and Shellfish* (last visited May 15, 2019), available at <https://www.epa.gov/mercury/basic-information-about-mercury>.

<sup>10</sup> *Id.*; See also *Methylmercury in Fish*, MOTHERTOBABY (Nov. 1, 2017), available at <https://mothertobaby.org/factsheets/methylmercury-pregnancy/>.

<sup>11</sup> EPA, *Health Effects of Exposure to Mercury* (last visited May 15, 2019), available at <https://www.epa.gov/mercury/health-effects-exposures-mercury>.

exposure levels.<sup>12</sup> Additionally, impacts of mercury may not be apparent at birth, rather, such impacts may be delayed in their presentation. Typically, lower levels of exposure can result in IQ deficits or less obvious effects on the brain,<sup>13</sup> impairment of cognitive thinking, memory, attention, language, fine motor skills, and visual spatial skills.<sup>14</sup> Such subtle effects may require sensitive neuropsychological testing to be diagnosed.<sup>15</sup> On the other hand, exposure to methylmercury at extremely high levels may result in more pronounced effects such as, failure or delay in reaching developmental milestones, brain damage with severe mental handicaps, incoordination or inability to move, eventual blindness, involuntary muscle contractions or muscle weakness, seizures, and the inability to speak.<sup>16</sup>

Although older children and adults are less susceptible to mercury than infants in the womb, they are still vulnerable to the potentially adverse impacts of mercury exposure.<sup>17</sup> Some symptoms of methylmercury poisoning in adults or children include, loss of peripheral vision, pins and needles feelings in the hands, feet, and/or around the mouth, lack of coordination of movements, impairments of speech, hearing and/or walking, and muscle weakness.<sup>18</sup> Children poisoned by mercury may experience kidney damage as well as issues with their nervous and digestive systems.<sup>19</sup>

## **B. The Clean Air Act**

The Clean Air Act (CAA, 42 U.S.C. 7401 *et seq.*) was created “to protect human health and the environment from emissions that pollute ambient, or outdoor, air” and has been amended many times.<sup>20</sup> Most notable, as it relates to the Mercury and Air Toxics Standards (MATS) rule, are the amendments of 1990. Among other things, the 1990 amendments made significant changes to two existing programs in Title I of the CAA—the National Ambient Air Quality Standards (NAAQS) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program.<sup>21</sup>

Title I of the CAA requires that the Environmental Protection Agency (EPA) set NAAQS for the six criteria pollutants—carbon monoxide, sulfur dioxide, oxides of nitrogen, lead,

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<sup>12</sup> CDC, *Public Health Statement Mercury*, Agency for Toxic Substances and Disease Registry (1999), available at <https://www.atsdr.cdc.gov/ToxProfiles/tp46-c1-b.pdf>.

<sup>13</sup> *Id.*

<sup>14</sup> EPA, *How People are Exposed to Mercury, Exposures to Methylmercury, How Does Mercury get into Fish and Shellfish*, (last visited May 15, 2019), available at <https://www.epa.gov/mercury/basic-information-about-mercury>.

<sup>15</sup> *Id.*

<sup>16</sup> CDC, *Public Health Statement Mercury*, Agency for Toxic Substances and Disease Registry (1999), available at <https://www.atsdr.cdc.gov/ToxProfiles/tp46-c1-b.pdf>.

<sup>17</sup> EPA, *Basic Information About Mercury, What is Mercury*, (last visited May 15, 2019), available at <https://www.epa.gov/mercury/basic-information-about-mercury>.

<sup>18</sup> *Id.*

<sup>19</sup> EPA, *Basic Information About Mercury, What is Mercury* (last visited May 15, 2019), available at <https://www.epa.gov/mercury/basic-information-about-mercury>.

<sup>20</sup> James E. McCarthy, et al., Congressional Research Service, *Clean Air Act: A Summary of the Act and Its Major Requirements*, (Jan. 6, 2011), available at <https://fas.org/sgp/crs/misc/RL30853.pdf>.

<sup>21</sup> EPA, *Overview by Section of CAA* (last visited May 16, 2019), <https://www3.epa.gov/airtoxics/overview.html>.

particulates, and ozone. Some of the standards and programs in the CAA targeting the six criteria pollutants include New Source Review, New Source Performance Standards (NSPS), and State Implementation Plans (SIPs).<sup>22</sup>

Section 112 of the CAA requires that the EPA promulgate regulations establishing emission standards for hazardous air pollutants (HAP) listed in Section 112(c).<sup>23</sup> More specifically, section 112 requires that the EPA establish Maximum Achievable Control Technology (MACT) standards for sources of the 187 hazardous air pollutants (HAPs) listed in the CAA, and specify categories of sources that will be subject to these emission standards.<sup>24</sup> The agency “is required to set standards for sources of the listed pollutants that achieve “the maximum degree of reduction in emissions” taking into account cost and other non-air-quality factors.”<sup>25</sup> EPA must revise these standards at least every eight years and on its own initiative, or in response to a petition, EPA can add or delete substances or source categories from the lists.<sup>26</sup>

Under section 112(c) of the CAA, the EPA is required to publish and regularly update “a listing of all categories and subcategories of major and area sources that emit HAPs.”<sup>27</sup> Section 112(n) requires EPA to study further HAP emissions from certain entities before engaging in a rulemaking process. Specifically, the EPA must “perform studies concerning HAP emissions and control technologies from electric utility steam-generating units, coke oven production, and publicly-owned treatment works” that included “a study of mercury, associated emissions, health and environmental effects, and control technologies for mercury.”<sup>28</sup>

### **C. History of Mercury and Air Toxics Standards (MATS) Regulation**

The history of the MATS regulation dates back to the 1990 Clean Air Act Amendments. Pursuant to Section 112(n)(1) of the CAA as amended in 1990, the EPA was required to conduct studies on coal- and oil-fired electric utility steam generating units (EGUs) to inform the EPA’s decision on whether it was “appropriate and necessary” to regulate EGUs under section 112 of the CAA.<sup>29</sup> These studies included a study to evaluate “the hazards to public health reasonably anticipated to occur as the result of HAP emissions from EGUs after imposition of the requirements of the CAA” (the “Utility Study”) and a study to “consider the rate and mass of [mercury] emissions, the health and environmental effects of such emissions, technologies which

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<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*; The 1990 amendments specified 189 pollutants, but P.L. 102-187, enacted on December 4, 1991, deleted hydrogen sulfide from the list of toxic pollutants, leaving only 188. On December 19, 2005, EPA removed methyl ethyl ketone (MEK) from the list of toxic air pollutants. The total number of listed air toxics is now 187.

<sup>25</sup> *Id.*

<sup>26</sup> James E. McCarthy, et al., Congressional Research Service, *Clean Air Act: A Summary of the Act and Its Major Requirements*, (Jan. 6, 2011), available at <https://fas.org/sgp/crs/misc/RL30853.pdf>; EPA, *Summary of the Clean Air Act* (last visited May 16, 2019), available at <https://www.epa.gov/laws-regulations/summary-clean-air-act>.

<sup>27</sup> EPA, *Overview by Section of CAA* (last visited May 16, 2019), <https://www3.epa.gov/airtoxics/overview.html>.

<sup>28</sup> *Id.*

<sup>29</sup> See Clean Air Act § 112(n).

are available to control such emissions, and the costs of such technologies” (the “Mercury Study”). The third required study was a report by the National Institute of Environmental Health Sciences (NIEHS) that “determine[d] the threshold level of Hg exposure below which adverse human health effects are not expected to occur.”<sup>30</sup> The purpose of these studies was for the results to inform the EPA’s decision regarding whether it was “appropriate and necessary” to regulate EGUs under section 112 of the CAA.

The EPA issued the “Mercury Study” required under section 112 of the CAA to Congress in December 1997.<sup>31</sup> Among other things, the study found that “[m]ost of the [mercury] in the atmosphere is elemental [mercury] vapor, which circulates in the atmosphere for up to a year, and therefore can be widely dispersed and transported thousands of miles from likely sources of emission.”<sup>32</sup> Further, according to the Study, “current anthropogenic emissions were only one part of the [mercury] cycle” and “the flux of [mercury] from the atmosphere to land or water at any one location is comprised of contributions from the natural global cycle, including re-emissions from the oceans, international sources, regional sources, and local sources.”<sup>33</sup> The “Study also found that fish consumption dominates the pathway for human and wildlife exposure to [methylmercury] and that there was a plausible link between anthropogenic releases of [mercury] from industrial and combustion sources in the U.S. and [methylmercury] in fish.”<sup>34</sup> In the Study, “EPA explained that, given the current scientific understanding of the environmental fate and transport of this element, it was not possible to quantify how much of the [methylmercury] in fish consumed by the U.S. population results from U.S. anthropogenic emissions, as compared to other sources of [mercury] (such as natural sources and re-emissions from the global pool).”<sup>35</sup>

The EPA issued the “Utility Study” required under section 112 to Congress in February 1998.<sup>36</sup> As part of the study, EPA collected HAP emissions test data from 52 EGUs and that data, along with facility specific information, was used to estimate HAP emissions from all 684 utility facilities.<sup>37</sup> EPA determined that 67 HAP were emitted from EGUs and the agency conducted a screening level assessment of those HAP to prioritize the list of pollutants for further analysis. There were 14 HAP identified as priority for further assessment – 12 were identified based on inhalation exposure and risk and six, including mercury, were identified for multipathway assessment of exposure and risk.<sup>38</sup> Based on the assessment, EPA determined that mercury from coal-fired EGUs was the HAP of greatest concern. In addition, the Study evaluated HAP emissions based on two scenarios – a 1990 base year and 2010 projected

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<sup>30</sup> 76 Fed. Reg. 24976, 24982 (May 3, 2011).

<sup>31</sup> EPA, *Mercury Study Report to Congress, Volume 1. Executive Summary* (Dec. 1997), available at <https://www.epa.gov/sites/production/files/2015-09/documents/volume1.pdf>.

<sup>32</sup> 76 Fed. Reg. 24976 (May 3, 2011).

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

emissions. EPA selected the 2010 scenario “to meet the section 112(n)(1)(A) mandate to evaluate hazards “after imposition of the requirements of the Act.”<sup>39</sup>

In addition to the reports required under section 112(n) of the CAA as amended in 1990, Congress, in conference report language associated with the EPA’s Fiscal Year (FY) 1999 appropriations, directed EPA to fund the National Academy of Sciences (NAS) to perform an independent study on the toxicological effects of methylmercury and to prepare recommendations on the establishment of a scientifically appropriate methylmercury exposure reference dose.<sup>40</sup> In addition, Congress indicated that the EPA should not make the appropriate and necessary regulatory determination for mercury emissions until EPA reviewed the results of the NAS study.<sup>41</sup> NAS conducted an 18-month study examining the health effects of methylmercury and reported the findings of the study to EPA in July 2000.<sup>42</sup>

At the end of the Clinton Administration in December 2000, the EPA issued a notice of regulatory finding making nine conclusions based on the information in the record and finding that it was appropriate and necessary to regulate EGUs under section 112 of the CAA.<sup>43</sup> In the finding, the EPA explained, among other things, that “it was appropriate to regulate HAP emissions from coal- and oil-fired units because it had identified certain control options that, it anticipated, would effectively reduce HAP from such units.”<sup>44</sup> Moreover, “[o]nce EPA determined that it was ‘appropriate’ to regulate coal- and oil-fired EGUs under CAA section 112, EPA next concluded that it was also ‘necessary’ to regulate HAP emissions from such units under section 112 ‘because the implementation of other requirements under the CAA will not adequately address the serious public health and environmental hazards arising from such emissions identified in the Utility RTC and confirmed by the NAS Study, and which section 112 is intended to address.’”<sup>45</sup>

As a result, on December 20, 2000, EPA issued a finding pursuant to CAA section 112(n)(1)(A) that it was appropriate and necessary to regulate coal- and oil-fired electric utility steam generating units (EGUs) under the CAA section 112 and added EGUs to the CAA section 112(c) list of source categories that must be regulated.<sup>46</sup>

In January 2004, during the George W. Bush Administration, EPA proposed to reverse the Clinton Administration’s “necessary and appropriate finding” and regulate mercury under a different section of the CAA—section 111. At that time, “EPA proposed section 112 standards for [mercury] emissions from coal-fired EGUs and nickel emissions from oil-fired EGUs, and, in

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<sup>39</sup> *Id.*

<sup>40</sup> H.R. Conf. Rep. No. 105-769, at 281-282 (1998). National Research Council (NAS), *Toxicological Effects of Methylmercury*, Committee on the Toxicological Effects of Methylmercury, Board on Environmental Studies and Toxicology, National Research Council (2000).

<sup>41</sup> 76 Fed. Reg. 24976, 24982 (May 3, 2011).

<sup>42</sup> *Id.*

<sup>43</sup> 65 Fed. Reg. 79825 (Dec. 20, 2000).

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

the alternative, proposed to remove EGUs from the section 112 list based on a finding that it was neither appropriate nor necessary to regulate EGUs under this section of the [CAA]. EPA also proposed to regulate mercury from coal-fired EGUs under CAA section 111.

In March 2005, “EPA issued a final revision of the appropriate and necessary finding from coal- and oil-fired EGUs and removed such units from the section 112 list.”<sup>47</sup> Ultimately, EPA did not finalize the proposed section 112 standards for mercury and nickel, but EPA did finalize the regulation under section 111 to reduce mercury emissions from coal-fired EGUs. In February 2008, the D.C. Circuit vacated both the action to remove EGUs from the section 112 list and the section 111 rule to limit mercury emissions.<sup>48</sup> The D.C. Circuit “determined that EPA violated the CAA by removing EGUs from the 112 list” and EGUs remained a section 112(c) listed source category.<sup>49</sup>

During the Obama Administration, the EPA reinstated the “necessary and appropriate” finding and proceeded to regulate mercury under section 112. On March 16, 2011, the EPA issued a proposed rule proposing the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for EGUs under section 112 of the CAA and proposing revised new source performance standards (NSPS) for fossil fuel-fired EGUs under CAA section 111(b).<sup>50</sup> On December 21, 2011, EPA announced a final rule to limit mercury, acid gases, and other toxic pollution from power plants.<sup>51</sup> The final rule, entitled “National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electricity Utility, Industrial-Commercial-Institutional, and Small Industrial Commercial-Institutional Steam Generating Units” was published in the Federal Register on February 16, 2012, and was to become effective in April 2012.<sup>52</sup> EPA refers to these as the “Mercury and Air Toxics Standards,” or “MATS” and the rule is also known as the “Utility MACT” rule. The Utility MACT rule set new hazardous air pollutant emissions limits, known as Maximum Achievable Control Technology (MACT) standards, for coal and oil-fired power plants, as well as New Source Performance Standards (NSPS) for electric generating units for particulate matter, sulfur dioxide, and nitrogen oxides.<sup>53</sup>

EPA, however, interpreted the statutory phrase “appropriate and necessary” in a way that precluded them from considering cost when deciding whether to regulate power plants under the

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<sup>47</sup> EPA, *Fact Sheet, Mercury and Air Toxics Standards for Power Plants*, available at <https://www.epa.gov/sites/production/files/2015-11/documents/20111221matssummaryfs.pdf>.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> 76 Fed. Reg. 24976 (May 3, 2011).

<sup>51</sup> EPA, *Mercury and Air Toxics Standards, EPA Announces Mercury and Air Toxics Standards (MATS) for Power Plants – Technical Information*, (last visited May 16, 2019) available at <https://www.epa.gov/mats/epa-announces-mercury-and-air-toxics-standards-mats-power-plants-technical-information>.

<sup>52</sup> 77 Fed. Reg. 9304.

<sup>53</sup> EPA, *Regulatory Impact Analysis of the Proposed Toxics Rule: Final Report* (Mar. 2011), available at <https://www3.epa.gov/ttn/ecas/regdata/RIAs/ToxicsRuleRIA.pdf>; EPA, *Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards* (Dec. 2011), available at <https://www.epa.gov/sites/production/files/2015-11/documents/matsriafinal.pdf>.

NESHAP program.<sup>54</sup> A group of 23 states along with industry groups challenged the final rule in the D.C. Circuit because the EPA did not consider cost in promulgating the rule.<sup>55</sup> A divided panel of the D.C. Circuit upheld EPA's decision not to consider cost, and the Supreme Court granted certiorari. The Supreme Court reversed the D.C. Circuit's decision, with Justice Scalia writing for majority, and remanded the rule back to the EPA for further consideration.<sup>56</sup> Justice Scalia explained that two fundamental administrative law doctrines governed—*State Farm* and *Chevron*—and by applying these principles, the Court found that because the phrase “appropriate and necessary” requires at least some attention to cost, EPA's interpretation that the cost of implementing the regulation did not need to be considered in the rulemaking process violated the aforementioned administrative law doctrines.<sup>57</sup>

In response to *Michigan v. EPA*, EPA issued a supplemental “appropriate and necessary” finding in April 2016 based on its review of the 2012 rule's estimated costs.<sup>58</sup> In the 2016 Supplemental Finding, the EPA used two approaches, finding in each that the cost-benefit analysis supported the MATS regulation:

The first and preferred approach evaluated whether compliance costs were reasonable based on the industry's historical annual revenues and capital expenditures, retail electricity rates, and potential impacts on reliability. The second approach involved a direct comparison of the estimated compliance costs and the estimated benefits, which included co-benefits. The 2016 Supplemental Finding concluded that under both approaches, it is appropriate and necessary to regulate HAPs, including mercury, from power plants after considering regulatory costs.<sup>59</sup>

With respect to the cost-benefit analysis approach put forth by the EPA, the agency justified finding that it is “appropriate” to regulate HAPs emissions from EGUs in part by looking at the co-benefits. In doing so, “the EPA estimated that the final MATS would yield total annual monetized benefits (in 2007 dollars) of between \$37 billion to \$90 billion using a 3-percent discount rate and \$33 billion to \$81 billion using a 7-percent discount rate in addition to many categories of unquantified benefits in comparison to the projected \$9.6 billion in annual costs.”<sup>60</sup> In these estimated benefits, however, “[n]early all of the monetized benefits were from

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<sup>54</sup> 77 Fed. Reg. 9304, 9363 (Feb. 16, 2012). EPA found regulation “appropriate” because power plants' emissions of hazardous air pollutants posed serious health risks, and a number of control options were available to reduce those emissions; *New Jersey v. EPA*, 517 F.3d 574, 580, 583 (D.C. Cir. 2008). It found regulation “necessary” because the Act's other requirements had failed to sufficiently reduce the health risks.

<sup>55</sup> *White Stallion Energy Ctr., LLC v. EPA*, 748 F.3d 1222, 1233 (D.C. Cir. 2014) (per curiam).

<sup>56</sup> Justice Scalia was joined by Chief Justice Roberts, as well as Justices Kennedy, Thomas, and Alito. Justice Thomas also filed a concurrence in which he questioned the constitutionality of *Chevron* deference. See *Michigan v. EPA*, 135 S. Ct. at 2712–14 (Thomas, J., concurring).

<sup>57</sup> 129 Harv. L. Rev. 311, Environmental Law, *Michigan v. EPA* (Nov. 2015), available at <https://harvardlawreview.org/2015/11/michigan-v-epa/>.

<sup>58</sup> 81 Fed. Reg. 24420 (Apr. 25, 2016).

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*



the rule's particulate matter co-benefits.”<sup>61</sup> The benefits from HAPS emission reductions alone were estimated at up to \$6 million annually.<sup>62</sup>

#### **D. EPA's Recent Actions Relating to the MATS Regulation**

The 2016 Supplemental Finding was challenged in 2016 in *Murray Energy Corporation v. EPA*. The case is still pending; however, the D.C. Circuit Court is “holding the case in abeyance to allow time for the Trump Administration to review the finding and related legal framework.”<sup>63</sup>

On December 27, 2018, the EPA issued a proposed rule relating to NESHAPs for EGUs.<sup>64</sup> In the federal register notice, the EPA makes four proposals: (1) to determine that it is not “appropriate and necessary” to regulate HAP emissions from coal- and oil-fired EGUs plans under section 112 of the CAA; (2) to keep coal- and oil-fired EGUs as a source category on the CAA Section 112(c) list of sources that must be regulated under section 112(d) of the CAA, thereby keeping the emission standards and other requirements of the MATS rule in place for coal- and oil-fired power plants; (3) to solicit comment on whether the Agency has the authority and/or obligation to delist EGUs from section 112(c) of the CAA and rescind the NESHAP for coal- and oil-fired EGUs; and (4) to propose the results of the residual risk and technology review (RTR) of the NESHAP for coal- and oil-fired EGUs.<sup>65</sup> After publishing the proposed rule in the federal register on February 7, 2019, the EPA held a public hearing on the proposals on March 18, 2019, and collected public comments on the proposal until April 17, 2019.<sup>66</sup>

The EPA proposes to revise the “appropriate and necessary” finding in response to the Supreme Court's decision in *Michigan v. EPA* requiring that the Agency consider cost when deciding whether it is appropriate and necessary under section 112 of the CAA to regulate HAP emission from coal- and oil-fired EGUs.<sup>67</sup> The EPA concluded that the 2016 Supplemental Finding was flawed in a number of ways, including because the “preferred approach” in the

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<sup>61</sup> Kate Shouse, Congressional Research Service, *EPA Reconsiders Basis for Mercury and Air Toxics Standards* (Jan. 18, 2019), available at <https://fas.org/sgp/crs/misc/IF11078.pdf>.

<sup>62</sup> Anne E. Smith testimony, Hearing before the Subcommittee on Energy and Power, Committee on Energy and Commerce on *The American Energy Initiative – A Focus on What EPA's Utility MACT Rule Will Cost U.S. Consumers*, Feb. 8, 2012 (112th Cong., serial no. 112-113).

<sup>63</sup> Britt Speyer Fleming and Stephen C. Fotis, *EPA Reconsiders Cost Justification for MATS and Proposes No Additional Requirements for Power Plants*, THE NATIONAL LAW REVIEW (Jan. 9, 2019), available at <https://www.natlawreview.com/article/epa-reconsiders-cost-justification-mats-and-proposes-no-additional-requirements>.

<sup>64</sup> EPA, Mercury and Air Toxics Standards, Regulatory Actions – Final Mercury and Air Toxics Standards (MATS) for Power Plants (Dec. 27, 2018), available at <https://www.epa.gov/mats/regulatory-actions-final-mercury-and-air-toxics-standards-mats-power-plants>.

<sup>65</sup> 84 Fed. Reg. 2670.

<sup>66</sup> U.S. Environmental Protection Agency, *Public Hearing Registration for Proposed Revised Supplemental Finding and Results of the Residual Risk and Technology Review* (last visited May 16, 2019), available at <https://www.epa.gov/mats/forms/public-hearing-registration-proposed-revised-supplemental-finding-and-results-residual>.

<sup>67</sup> 84 Fed. Reg. 2670, 2672.

2016 Supplemental Finding—the “cost reasonableness” approach—disregarded the Supreme Court’s suggestion in *Michigan v. EPA* that the EPA “must meaningfully consider cost within the context of a regulation’s benefits” under section 112(n)(1) of the CAA.<sup>68</sup> More specifically, the EPA said that “[b]ecause the ‘cost reasonableness’ test failed to consider cost in a meaningful way relative to benefits, we, therefore conclude that approach did not adequately address the Supreme Court’s instruction that a reasonable regulation requires an agency to fully consider ‘the advantages *and* disadvantages’ of a decision.”<sup>69</sup>

Furthermore, the EPA said that the “alternative approach” in the 2016 Supplemental Finding improperly considered co-benefits from non-HAP emission reductions. The EPA said that the “the EPA’s equal reliance on the particulate matter (PM) air quality co-benefits projected to occur as a result of the reduction in HAP was flawed as the focus of CAA section 112(n)(1)(A) is HAP emissions reductions.”<sup>70</sup> Moreover, the EPA said:

[I]t would be highly illogical for the Agency to make a determination that regulation under CAA section 112, which is expressly designed to deal with HAP, is justified principally on the basis of the criteria pollutant impacts of these regulations. That is, if the HAP-related benefits are not at least moderately commensurate with the cost of HAP controls, then no amount of co-benefits can offset this imbalance for purposes of a determination that it is appropriate to regulate under CAA section 112(n)(1)(A).<sup>71</sup>

Instead, in the current proposal, the EPA said that, after considering the cost of compliance relative to the HAP benefits of MATS, the Agency determined it was not “appropriate and necessary” to regulate coal- and oil-fired EGUs under section 112 of the CAA.<sup>72</sup> To support this determination, the EPA stated:

The EPA has reexamined the cost analyses presented in the 2016 Supplemental Finding and proposes to determine that neither of the Finding’s approaches to considering cost satisfies the Agency’s obligation under CAA section 112(n)(1)(A) as interpreted by the Supreme Court in *Michigan*. Instead, we use a different consideration of cost for purposes of the appropriate and necessary finding, one that we believe aligns with the purpose of CAA section 112(n)(1)(A) as set forth in *Michigan*. We propose to directly compare the cost of compliance with MATS with the benefits specifically associated with reducing emissions of HAP as the primary inquiry in this finding, in order to satisfy our duty to consider cost in the context of CAA section 112(n)(1)(A). . . . In this action, the EPA proposes to conclude that it is not appropriate and necessary to regulate HAP from EGUs under CAA section 112 because the costs of such regulation grossly outweigh the HAP benefits. . . . A proper consideration of costs based on this approach demonstrates

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<sup>68</sup> *Id.* at 2675.

<sup>69</sup> *Id.* at 2675.

<sup>70</sup> *Id.* at 2675-76.

<sup>71</sup> *Id.* at 2676.

<sup>72</sup> *Id.*

that the total cost of compliance with MATS (\$7.4 to \$9.6 billion annually) dwarfs the monetized HAP benefits of the rule (\$4 to \$6 million annually). As discussed further below, while there are unquantified HAP benefits and significant monetized PM co-benefits associated with MATS, the Administrator has concluded that the identification of these benefits is not sufficient, in light of the gross imbalance of monetized costs and HAP benefits, to support a finding that it is appropriate and necessary to regulate EGUs under CAA section 112.<sup>73</sup>

The Agency points to the statutory text of section 112(n)(1)(A) of the CAA and the Supreme Court’s decision in *Michigan v. EPA* to justify focusing the “appropriate and necessary” decision on HAP-specific benefits and costs.<sup>74</sup> First, the EPA notes that the study required in section 112(n)(1)(A)—the “Utility Study”—directly focuses on the harms that will occur as a result of HAP emissions, and the EPA points out that Congress directed the “EPA to study HAP effects under CAA section 112 *after* other provisions of the CAA had been implemented” and that this “suggests that Congress envisioned that the judgment about whether additional regulation was appropriate and necessary should be predicated primarily on an assessment of HAP emissions from the source category.”<sup>75</sup> Second, the EPA says that primarily considering the costs of MATS in contrast to the HAP benefits of hazardous pollution reductions from MATS—and not giving equal weight to non-HAP co-benefits in this comparison—is consistent with the overall structure of the CAA.<sup>76</sup> EPA noted:

Congress established a rigorous system for setting standards of acceptable levels of criteria air pollutants and wrote a comprehensive framework directing the implementation of those standards in order to address the health and environmental impacts associated with those pollutants. . . . [T]he vast majority of estimated monetized benefits resulting from MATS are associated with reductions in PM<sub>2.5</sub> precursor emissions, principally NO<sub>x</sub> and SO<sub>2</sub>. Both NO<sub>x</sub> and SO<sub>2</sub> are criteria pollutants and precursors to criteria pollutants that are already addressed by the cavalcade of statutory provisions governing levels of these pollutants, including the National Ambient Air Quality Standards (NAAQS) provisions that require the EPA to set standards for criteria pollutants requisite to protect public health with an adequate margin of safety, and by state, regional, and national rulemakings establishing control measures to meet those levels. To the extent that additional reductions of these criteria pollutants are necessary to protect public health, regulation explicitly targeted at these pollutants is best reserved for the NAAQS program, under which Congress provided the EPA ample authority to regulate.<sup>77</sup>

While the EPA is proposing to find that it is not “appropriate and necessary” to regulate HAP emissions from coal- and oil-fired EGUs plans under section 112 of the CAA, the EPA is

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<sup>73</sup> *Id.* at 2676-77.

<sup>74</sup> *Id.* 2677.

<sup>75</sup> *Id.* at 2677 (emphasis in original).

<sup>76</sup> *Id.* 2677.

<sup>77</sup> *Id.* at 2677.

proposing to keep coal- and oil-fired EGU source category on the CAA section 112(c)(1) list and therefore keep the section 112(d) emission standards that were promulgated in 2012.<sup>78</sup> The EPA points to the D.C. Circuit Court’s decision in *New Jersey v. EPA* (D.C. Cir. 2008) and notes that under this decision, “the EPA’s determination that a source category was listed in error does not by itself remove a source category from the CAA section 112(c)(1) list—even EGUs, notwithstanding their special treatment under CAA section 112(n).”<sup>79</sup> Instead, the EPA must decide that the statutory criteria for delisting set forth in section 112(c)(9) have been satisfied before the Agency can remove a source category from the CAA section 112(c)(1) list.<sup>80</sup> In the proposal, the EPA asks for comments on its interpretation of the D.C. Circuit’s decision in *New Jersey*.<sup>81</sup>

Finally, the EPA also proposed the results of the residual risk and technology review (RTR) of the NESHAP for coal- and oil-fired EGUs—which, under CAA, the EPA is required to conduct every 8 years.<sup>82</sup>

### **E. Summary of Responses to the EPA’s Current Proposal**

The EPA collected public comment on its proposed revised Supplemental Cost Finding for MATS and the required RTR under the CAA, and the public comment period closed on April 17, 2019.<sup>83</sup> The EPA received nearly 500,000 comments on the Agency’s proposal.<sup>84</sup> A high-level preliminary review of some of the comments received by the Agency on some of the proposals by the Agency—which are generalized and do not include positions on all of the proposals that the EPA made in the 2018 proposed rule—indicates that three categories of commenters include, but are not necessarily limited to, commenters that:

- (1) Oppose and/or express concerns with EPA’s finding that it is not “appropriate and necessary” to regulate hazardous air pollutant (HAP) emissions from coal- and oil-fired EGUs plans under section 112 of the Clean Air Act (CAA) and support the EPA’s decision to keep coal- and oil-fired EGUs as a source category on the CAA Section 112(c) list of sources that must be regulated under section 112(d) of the CAA;<sup>85</sup>

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<sup>78</sup> *Id.* at 2678.

<sup>79</sup> *Id.* at 2678.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.* 2678-79.

<sup>82</sup> *Id.* at 2680.

<sup>83</sup> U.S. Environmental Protection Agency, *Public Hearing Registration for Proposed Revised Supplemental Finding and Results of the Residual Risk and Technology Review* (last visited May 16, 2019), available at <https://www.epa.gov/mats/forms/public-hearing-registration-proposed-revised-supplemental-finding-and-results-residual>.

<sup>84</sup> *National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units – Additional Post-Promulgation Actions*, Docket ID: EPA-HQ-OAR-2018-0794, REGULATIONS.GOV (last visited May 16, 2019), <https://www.regulations.gov/docket?D=EPA-HQ-OAR-2018-0794>.

<sup>85</sup> *See, e.g.*, Letter from U.S. Chamber of Commerce to The Honorable Andrew Wheeler, Administrator, EPA, Docket ID No. EPA-HQ-OAR-2018-0794 (Apr. 17, 2019); Letter from Emily Sanford Fisher, General Counsel and

- (2) Support EPA’s finding that it is not “appropriate and necessary” to regulate hazardous air pollutant (HAP) emissions from coal- and oil-fired EGUs plans under section 112 of the Clean Air Act (CAA) and support the EPA’s decision to keep coal- and oil-fired EGUs as a source category on the CAA Section 112(c) list of sources that must be regulated under section 112(d) of the CAA;<sup>86</sup> and
- (3) Support EPA’s finding that is not “appropriate and necessary” to regulate hazardous air pollutant (HAP) emissions from coal- and oil-fired EGUs plans under section 112 of the Clean Air Act (CAA) and oppose the EPA’s decision to keep coal- and oil-fired EGUs as a source category on the CAA Section 112(c) list of sources that must be regulated under section 112(d) of the CAA.<sup>87</sup>

In the second bucket of commenters—those that support the decision to remove the appropriate and necessary finding and the decision to keep EGUs as a source category on the CAA Section 112(c) list of sources—at least one commenter indicated that it was their understanding that the Supreme Court in *Michigan* “clearly directed the agency to determine whether the costs of regulation of HAP emissions outweigh the benefits” and it therefore was inappropriate for the EPA to heavily rely on co-benefits of fine particulate removal.”<sup>88</sup> Notably, during oral argument in *Michigan v. EPA*, Chief Justice John Roberts “questioned the ‘disproportionate’ nature of the mercury and air toxic rule’s PM-2.5 co-benefits, suggesting they might represent an ‘end run around’ national ambient air quality standards.”<sup>89</sup> Moreover, “the chief justice’s questioning focused on the appropriateness of a pollutant that already has its own regulatory framework taking on such a dominant role as a co-benefit for another type of pollutant.”<sup>90</sup>

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Corporate Secretary, Edison Electric Institute to the Honorable William L. Wehrum, Docket ID No. EPA-HQ-OAR-2018-0794 (Mar. 26, 2019).

<sup>86</sup> See, e.g., Letter from Scott A. Weaver, Director, Air Quality Services, American Electric Power, to Dr. Nick Hutson, Energy Strategies Group, Sector Policies and Program Division, EPA, Docket ID No. EPA-HQ-OAR-2018-0794 (Apr. 16, 2019); Letter from Brenda E. Brickhouse, Vice President, Environment and Energy Policy, The Tennessee Valley Authority, to Sir or Madam, EPA, Docket ID No. EPA-HQ-OAR-2018-0794 (Apr. 17, 2019).

<sup>87</sup> See, e.g., Letter from Murray Energy Corporation, to The Honorable Andrew Wheeler, Administrator, EPA, Docket ID No. EPA-HQ-OAR-2018-0794 (Apr. 17, 2019).

<sup>88</sup> Letter from Scott A. Weaver, Director, Air Quality Services, American Electric Power, to Dr. Nick Hutson, Energy Strategies Group, Sector Policies and Program Division, EPA, Docket ID No. EPA-HQ-OAR-2018-0794 (Apr. 16, 2019).

<sup>89</sup> Scott Bloomberg, *EPA’s Particulate Matter Co-Benefits: A Case of Ever-Declining Credibility*, BLOOMBERG BNA (May 31, 2016), available at [https://www.nera.com/publications/archive/2016/epa\\_s-particulate-matter-co-benefits--a-case-of-ever-declining-c.html](https://www.nera.com/publications/archive/2016/epa_s-particulate-matter-co-benefits--a-case-of-ever-declining-c.html).

<sup>90</sup> *Id.*